

No Need to Hazard a Guess: New Safety Program Comes to the Rescue

Hazardous air quality, dangerous snakes and bats, and dizzying heights. These are some of the perils that INDOT bridge inspectors face when they climb onto – and into – state-owned bridges.

Some of these dangers will soon be lessened, thanks to the INDOT Statewide Safety Division's new Job Hazard Assessment Program. The initiative provides a fresh set of eyes to look at INDOT activities from a totally different perspective than those who perform the tasks daily.



INDOT Bridge Inspector John Routh and Statewide Safety Specialist Jay King are lifted up to an I-70 flyover bridge west of I-465.

Earlier this spring, the Safety Division partnered with INDOT's Bridge Division to perform field reviews of bridge inspection activities and determine the best way to more safely perform tasks.

"The Safety Division wanted to assess the hazards and figure out the best possible solutions to keep our INDOT bridge inspectors safe and healthy, and ensure the bridge inspectors were effective throughout their difficult duties," said Statewide Safety Director Angela Smith. "The Bridge Division already was dedicated in making safety a priority, and its proactive approach in partnering with the Safety Division should be commended."

Through its Job Hazard Assessment Program, Safety found two major areas of concern:

- Fall hazards
- Confined or permit-confined spaces

Fall hazards involve bridges where employees could suffer serious or fatal injuries from falls. Safety's Job Hazard Assessment Program found bridges devoid of anchor points, which are ringed bolts built into bridges for inspectors to connect their harnesses and prevent a fall. A few areas the Safety Hazard Assessment detailed were a need to inventory bridges that need an interior inspection, write a new safety program for the Bridge Division, and perform a cost analysis as to whether to install anchor points in-house or through a contractor.

Confined or permit-confined spaces – requiring an entry permit, and emergency rescue and respirator on-site during inspections – involve an array of dangers. These include hazardous gases, animals, bats, snakes, water and incredibly small areas in which to maneuver that await inspectors as they enter inside bridges, via exterior doors, to examine interior cracks and check the structural integrity of the bridge. INDOT Bridge Division has classified 38 steel-box or post-tension bridges (less than 1 percent of INDOT's inventory) that require such entry. The 5,000-plus other bridges can be inspected from outside.



“As someone who never had done INDOT bridge inspection work, I was astounded at the conditions of these bridges with confined or permit-confined spaces,” said INDOT Statewide Safety Specialist Jay King, formerly a compliance health and safety officer with the Indiana Occupational Safety and Health Administration. “We conducted air samples with a gas meter on a few bridges, and even those bridges with safe air inside them had incredibly stale air.

“Imagine an old house that hadn’t been opened in 20 years, and you walk in,” continued King. “That’s what the air was like. It was still, and the air tasted of dirt and concrete when you breathed. And that was the safe air. Other bridges may contain hazardous gases such as carbon monoxide.”

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That’s just the beginning of the conditions that await bridge inspectors who enter confined or permit-confined spaces. Other hazards can include:

- Extremely low spaces in which to walk; some are 3 feet high, giving the effect of tunneling through a crawl space
- Standing water and slippery conditions
- Unusable lights, meaning inspectors must rely on lighted headgear

The Bridge Division will be air-sampling all 38 locations over the next year to provide sufficient data that the air is suitable for human entrance. The new Bridge Safety program will include these bridges and archive information from all samples for historical data. Although the median age of INDOT bridges is more than 40 years old, some of the 38 bridges in question are newer, including flyovers on I-70 near the Indianapolis International Airport.

“With all the field activities performed by our 20-plus bridge inspectors, we want to protect them as best as possible,” said INDOT Bridge Inspection Manager Merrill Dougherty. “The Statewide Safety Division, with its Job Hazard Assessment Program, has been a great partner in helping to provide resources, training and guidance to answer questions.”

But it doesn’t end there. Underwater bridge inspection is contracted to outside vendors, and the Bridge Division is looking to reduce costs by performing simple underwater inspections in-house. In May, the Safety Division will review the Bridge Division’s in-house inspection process by boat.

“The important thing for all of INDOT to remember is that our Job Hazard Assessment Program is applicable for any division at INDOT,” Smith said. “This is a new way of doing business. We are taking a proactive approach and looking at any activity, itemizing the hazards, and making recommendations for change or implementing policy changes.”

Contact [Angela Smith](#) if your division is interested in a Job Hazard Assessment.